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Redox-induced change in the ligand coordination mode

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Abstract

© 2014 American Chemical Society. The reaction of cobalt(II) pivalate with a spin-labeled Schiff base (HL1) in organic solvents formed trinuclear complex [Co3(Piv)2L1 2L2 2]·Solv (Solv is Me2CO and/or C7H16 and CH3CN) containing both nitroxide L1 and the product of its single-electron reduction, nitrone L2. The formation of [Co3(Piv)2L1 2L2 2] was a consequence of an unusual phenomenon, which we called "redox-induced change in the ligand coordination mode". A reduction of L1 to L2 led to a change in the set of donor atoms and even in the size of the metallocycle. This phenomenon was also found for mononuclear [CrL1 2L2] and [FeL1 2L2]·Me2CO.

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